

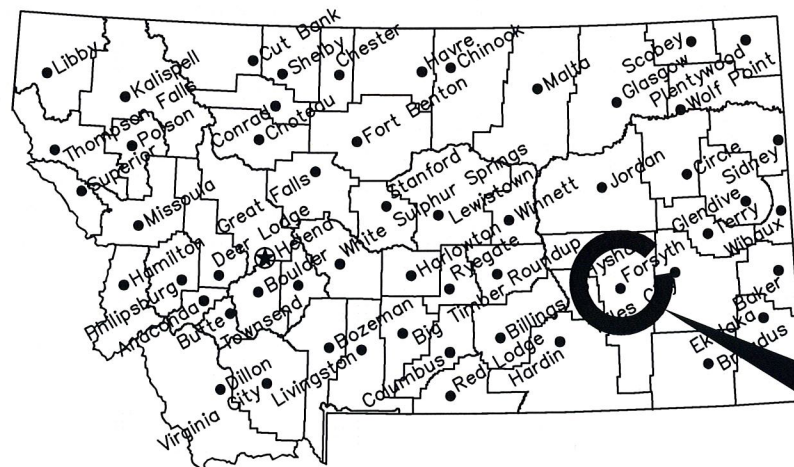
# MONTANA FISH, WILDLIFE & PARKS

## Rosebud West Fishing Access Site

### 2016 Boat Ramp Replacement & Bank Stabilization Project

Forsyth, Rosebud County, Montana

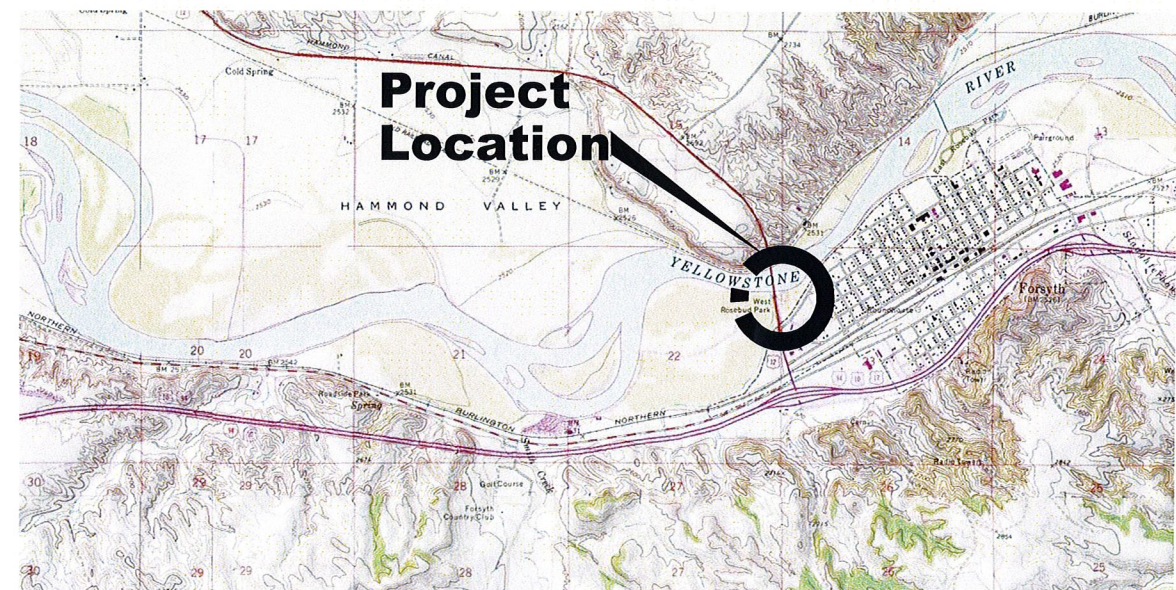
FWP # 7153401



**Location Map**

No Scale

**Project Location North**



**Vicinity Map**

No Scale

MONTANA FISH, WILDLIFE AND PARKS  
DESIGN AND CONSTRUCTION

MAILING ADDRESS: PO BOX 200701  
HELENA, MT 59620-0701  
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## DRAWING INDEX

- 1 COVER SHEET
- 2 SITE PLAN
- 3 NEW RAMP PLAN & PROFILE
- 4 CAST-IN-PLACE CONCRETE BOAT RAMP DETAILS
- 5 PUSH-IN CONCRETE SLAB BOAT RAMP DETAILS
- 6 SITE DETAILS



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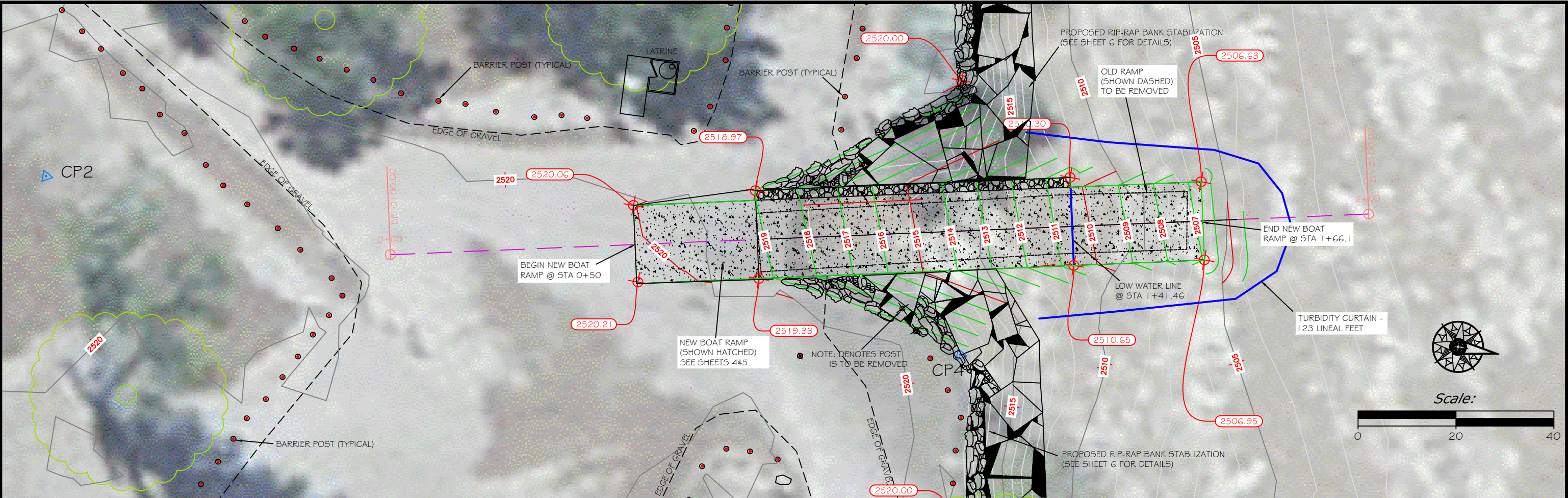
Cover Sheet  
Rosebud West Fishing Access Site

SHEET: 1 of 6

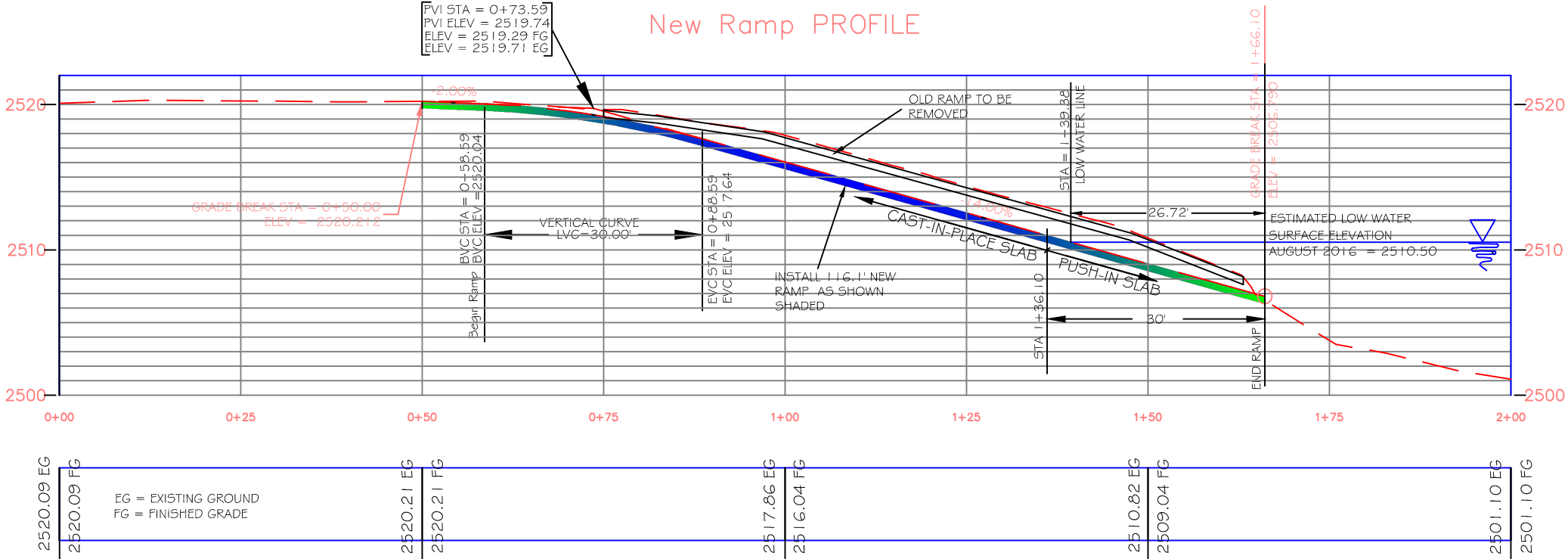








COORDINATE CONTROL TABLE Montana State Plane (NAD83) in Feet			
Point I.D.	Northing (feet)	Easting (feet)	Elevation (feet)
GPS-1	746850.04	2677463.41	2520.008
GPS-2	747742.26	2677177.89	2597.28
GPS-3	748791.13	2694222.08	2728.03
CP1	746850.04	2677463.41	2520.008
CP2	746699.46	2677419.52	2519.67
CP3	746898.88	2677503.00	2520.37
CP4	746889.70	2677422.97	2519.46
GPS-1 ~ Site Benchmark Elevation = 2520.008 Based on GPS occupation & processing			
GPS-2 ~ BLM CONTROL ACROSS RIVER			
GPS-3 ~ NGS CONTROL S_555			



Tom Mannatt  
DRAWN BY: DATE: 4/15/2016  
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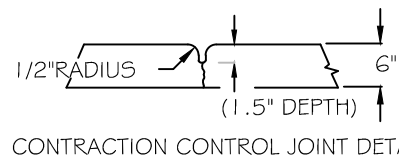


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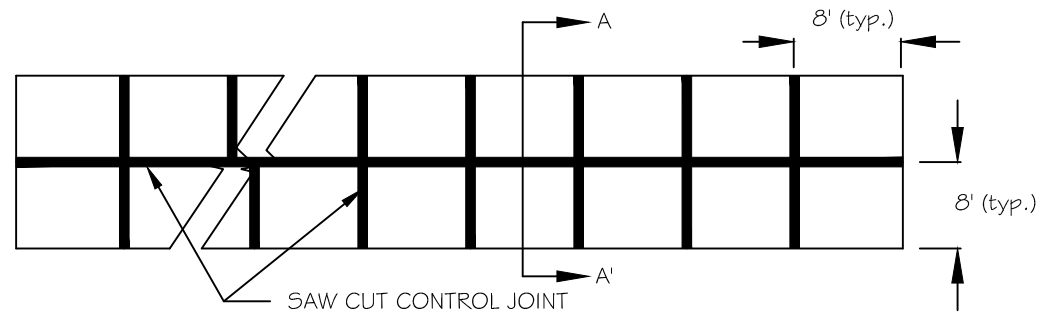
# New Ramp Plan & Profile

Rosebud West Fishing Access Site

SHEET: 3 of 6



CONTRACTION CONTROL JOINT DETAIL

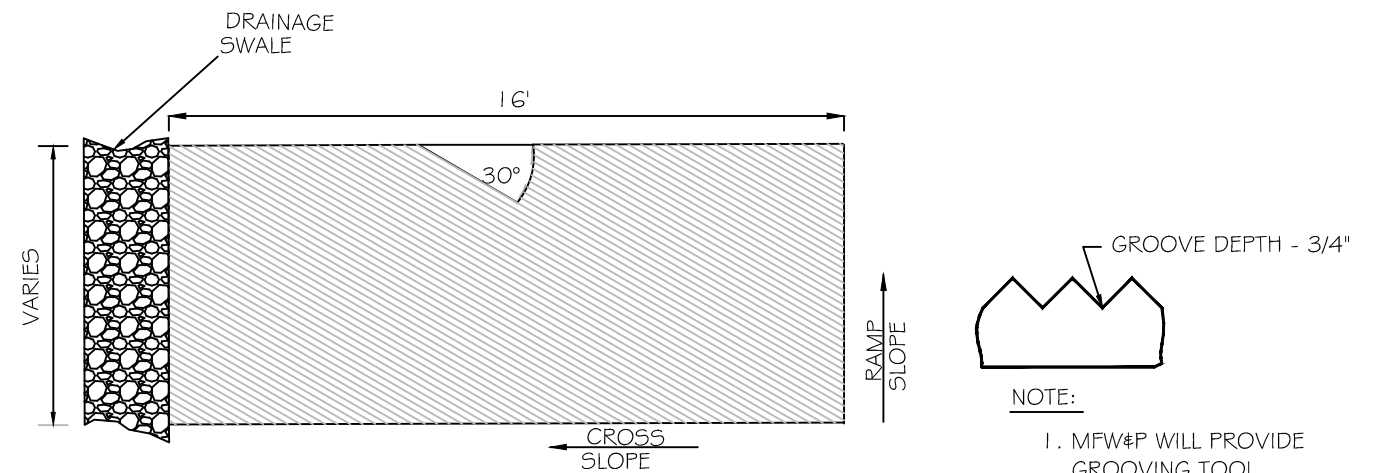


NOTE:

1. CONCRETE FOR NEW RAMP IS A 3/4" MINUS; 6-1/2 SACK MIX WITH A MIN 28 DAY STRENGTH OF 4000 PSI, REINFORCED WITH # 4 BARS @ 12" SPACING BOTH DIRECTIONS.
2. SCREED CONCRETE FOLLOWED BY GROOVING THE SURFACE.
3. SAW CUT CONTRACTION JOINTS AFTER RAMP IS GROOVED.

SLAB CONTROL JOINT DETAIL

PLAN VIEW

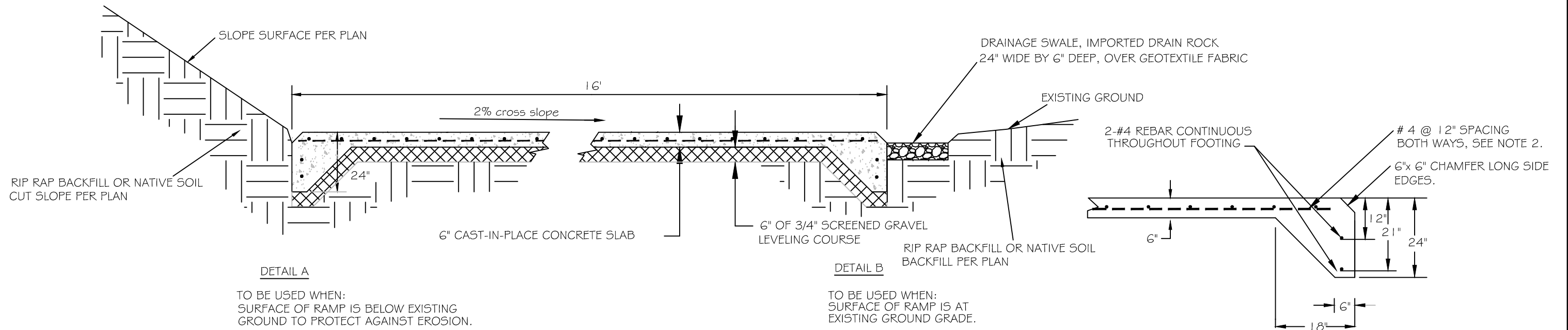


GROOVED SURFACE PLAN

PLAN VIEW

NOTE:

1. MFW#P WILL PROVIDE GROOVING TOOL



CAST-IN-PLACE CONCRETE

SECTION A-A'

THICKENED EDGE DETAIL

FOR CAST IN PLACE RAMP

NOTES.

1. CONTINUE THICKENED EDGE FOOTING AROUND ENTIRE PERIMETER OF CAST-IN-PLACE CONCRETE.
2. EXTEND AND EXPOXY #4 BARS MIN 20" (12" O.C.) IN EXISTING CONCRETE CONNECTIONS. PROVIDE EXPANSION JOINT MATERIAL ALONG COLD JOINT CONNECTIONS.
3. NO CHAMFER ALONG SIDEWALK/BULKHEAD/EXISTING CONCRETE CONNECTIONS.
4. PROVIDE 2 1/2" CLEAR COVER FOR ALL REBAR REINFORCEMENT.

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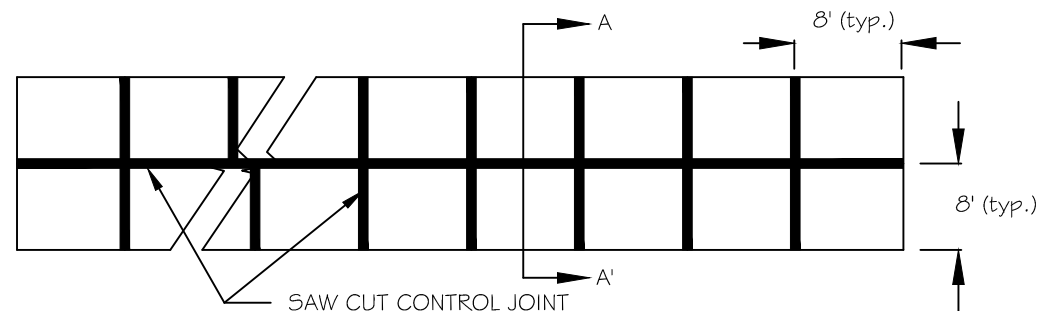
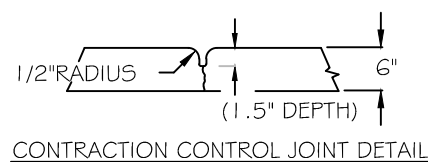


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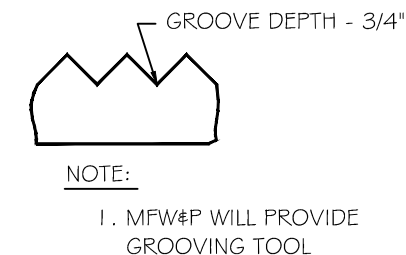
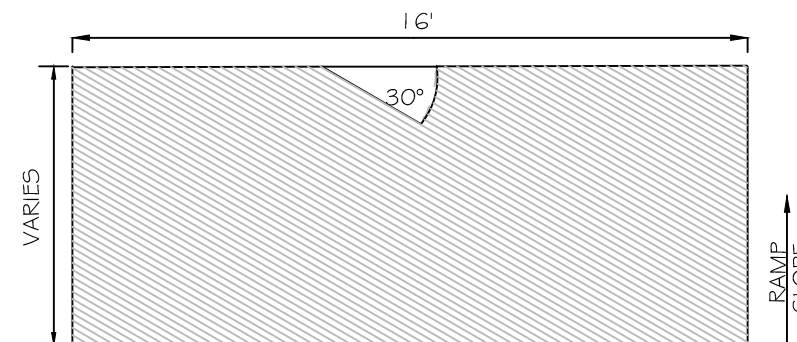
Cast In Place Concrete Boat Ramp Details  
Rosebud West Fishing Access Site

SHEET: 4  
of 6

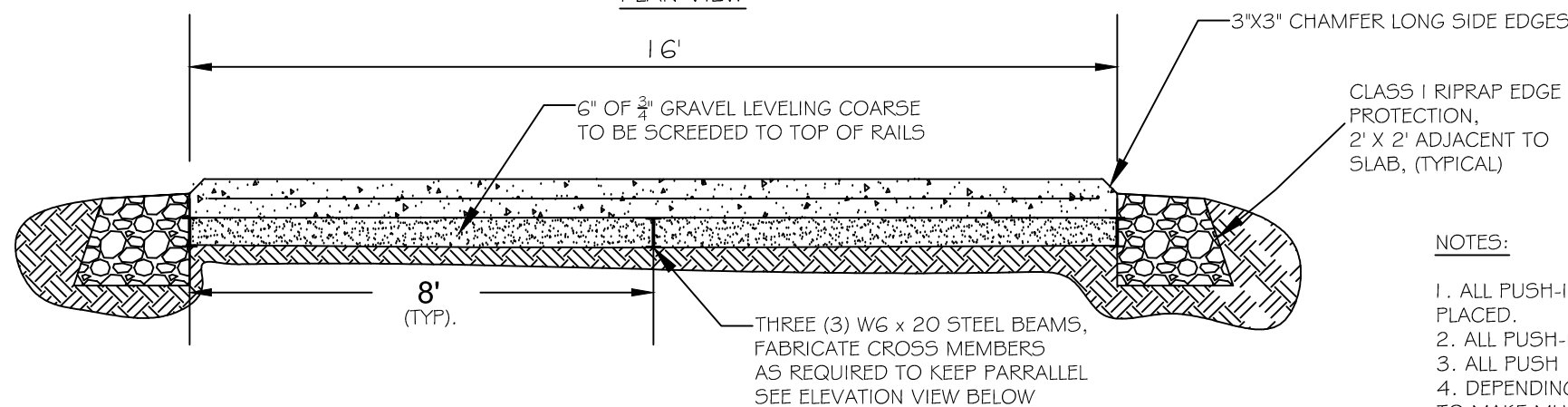


- NOTE:**
1. CONCRETE FOR NEW RAMP IS A 3/4" MINUS; 6-1/2 BAG MIX WITH A MIN 28 DAY STRENGTH OF 4000 PSI, REINFORCED WITH # 4 BARS @ 12" SPACING BOTH DIRECTIONS.
  2. SCREED CONCRETE FOLLOWED BY GROOVING THE SURFACE.
  3. SAW CUT CONTRACTION JOINTS AFTER RAMP IS GROOVED.

**SLAB CONTROL JOINT DETAIL**  
PLAN VIEW



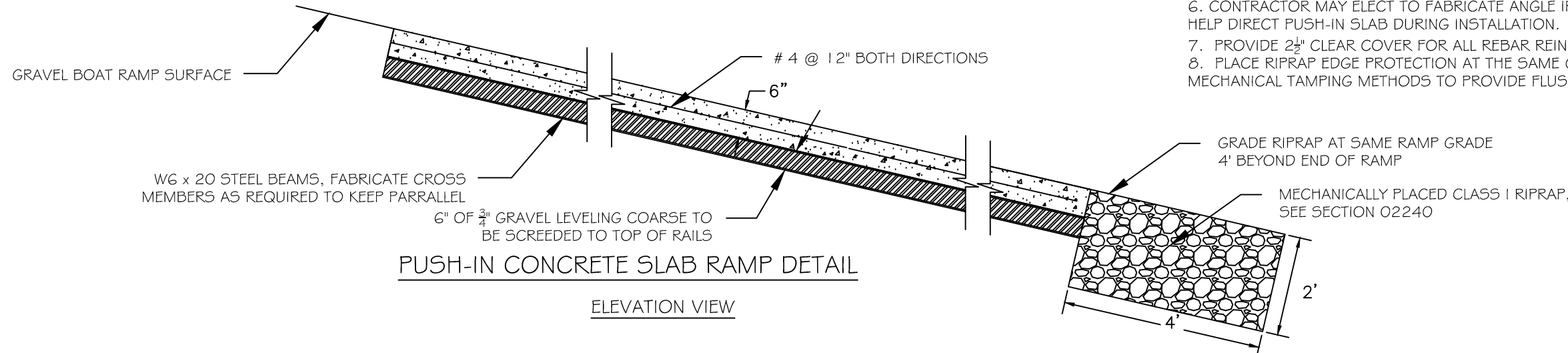
**GROOVED SURFACE PLAN**  
PLAN VIEW



**PUSH-IN CONCRETE SLAB RAMP DETAIL**  
SECTION VIEW

**NOTES:**

1. ALL PUSH-IN SLAB SECTIONS SHALL BE CAST AT APPROXIMATELY THE SAME SLOPE AS THEY ARE TO BE PLACED.
2. ALL PUSH-IN SECTIONS SHALL BE ALLOWED TO CURE FOR A MINIMUM OF 14 DAYS.
3. ALL PUSH IN SECTIONS SHALL BE CAST ON A SMOOTH 6" LAYER OF COMPACTED AGGREGATE.
4. DEPENDING ON CONSTRUCTION EQUIPMENT OR WORKING AREA LIMITATIONS, CONTRACTOR MAY HAVE TO MAKE MULTIPLE PUSH-IN SLAB POURS PRIOR TO FINAL INSTALLATION. ALL SEPARATE POURS WILL REQUIRE REBAR PLACEMENT AS DESCRIBED IN NOTE 5.
5. REBAR SHALL BE EPOXIED INTO FIRST SLAB AND EXTENDED A MINIMUM OF 20" INTO SUBSEQUENT SLAB(S).
6. CONTRACTOR MAY ELECT TO FABRICATE ANGLE IRON ALONG EDGE OF OUTER STEEL SUPPORT BEAMS TO HELP DIRECT PUSH-IN SLAB DURING INSTALLATION.
7. PROVIDE 2 1/2" CLEAR COVER FOR ALL REBAR REINFORCEMENT.
8. PLACE RIPRAP EDGE PROTECTION AT THE SAME GRADE OF PUSH-IN SLAB. KEY IN RIPRAP BY MECHANICAL TAMPING METHODS TO PROVIDE FLUSH SURFACE.



**PUSH-IN CONCRETE SLAB RAMP DETAIL**  
ELEVATION VIEW

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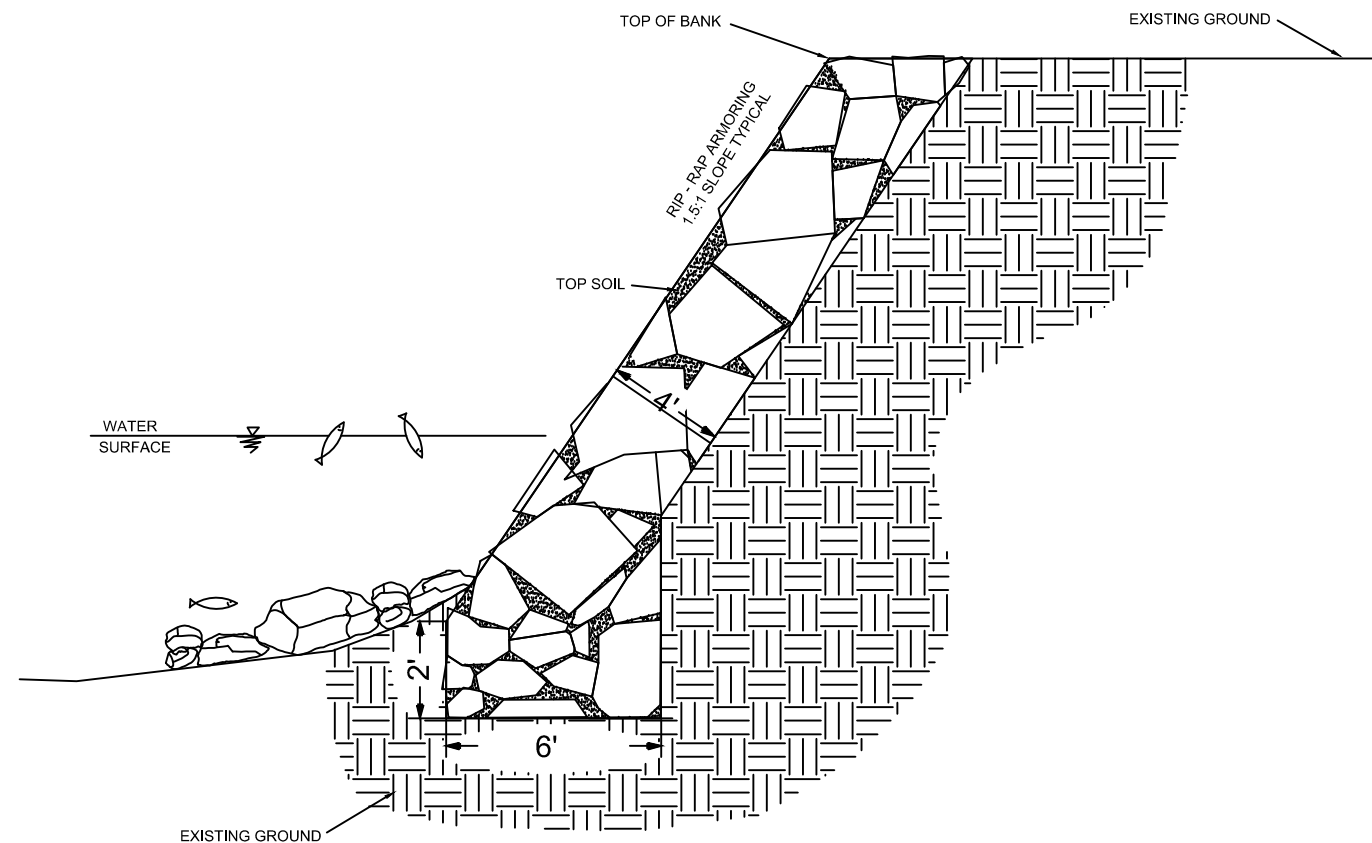
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**Push In Slab Concrete Boat Ramp Details**  
Rosebud West Fishing Access Site



### RIP RAP SECTION NOT TO SCALE

#### RIP RAP SECTION NOTES:

1. Riprap Materials: Provide in accordance with State of Montana Transportation standards for Class III Riprap. 3' diameter allowing 40% smaller by weight.
2. Provide stone that is hard, durable and angular in shape, resistant to water action and weathering, free from overburden, spoil, shale, structural defects and organic material.
3. Each stone must have its greatest dimension not greater than three times its least dimension.
4. Do not use rounded stone or boulders from a streambed source as rip-rap. Do not use shale or stones with shale seams.
5. Angular faces of stones shall inter-lock to provide stable surface.
6. Place riprap along edges of concrete boat ramp where shown.
7. Installed Thickness: 4 ft average & 6 ft at toe
8. Fill voids with top soil stored from site excavation.

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**Site Details**  
Rosebud West Fishing Access Site

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of  
**6**